

ABSTRACT

Methods and apparatus for measuring orientation and distance. In one example, an orientation dependent radiation source emanates radiation having at least one detectable property that varies as a function of a rotation of the orientation dependent radiation source and/or an observation distance from the orientation dependent radiation source (e.g., a distance between the source and a radiation detection device). In one particular example, the rotation of the source is determined from a position or phase of the orientation dependent radiation on an observation surface of the source, and the observation distance between the source and the detection device is determined from a spatial frequency of the orientation dependent radiation. In another example, an image metrology reference target is provided that when placed in a scene of interest facilitates image analysis for various measurement purposes. Such a reference target may include automatic detection means for facilitating an automatic detection of the reference target in an image of the reference target obtained by a camera, and bearing determination means for facilitating a determination of position and/or orientation of the reference target with respect to the camera. In one example, the bearing determination means of the reference target includes one or more orientation dependent radiation sources.